

Amendments to the Specification:

Please replace the paragraph beginning at page 2, lines 6 to 12, with the following amended paragraph:

Many attempts have been made to create artificial corneas or keratoprotheses in order to replace donor cornea grafts. Such attempts have often failed because of an absence of healing and permanent attachment between the periphery of the synthetic device and the residual rim of the host cornea. As a result, tissue necrosis, leakage of aqueous humor, epithelial down-growth, and intraocular infection frequently occur ~~occurred~~.

Please replace the paragraph beginning at page 3, lines 14 to 31, with the following amended paragraph:

Other corneal implants have been designed to correct the cornea curvature by inserting an intrastromal implant using polymers in a form of microporous hydrogel material. However, extrusion is still a major issue, as it is undesirable because it tends to cause clinical complications and product failure. For example, a polymerized PEG (by gamma radiation) hydrogel has been designed to be injectable into the stroma (US patent 6,102,946 by Nigam A, issued August 15, 2000). US patent 5,994,133 (Meijs et al; November 30, 1999) reports a corneal implant made with macromonomer of perfluoropolyether. US patent 4,702,244 (Mazzocco; October 27, 1987) reports a polyurethane/collagen hydrogel compound for an intraocular artificial lens. US patent application 20010018612 (Carson DR, published August 30, 2001) describes an intraocular ~~introeular~~ lens for long term implantation in the cornea composed of two hydrogel materials made of copolymer of N-vinyl-pyrrolidone and 2-phenylethyl methacrylate and the second polymer is based on glyceryl methacrylate.

Please replace the partial paragraph beginning at page 13, lines 30 to 34, with the following amended partial paragraph:

In the embodiments of the invention ~~embodiements~~, there is cell ingrowth into the polymeric membrane, and epithelialization over the membrane with no hyperplasia. The membrane may induce the deposition of organized extracellular matrix proteins resembling the cornea